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[54] **TEMPORARY STORAGE OF IONS FOR MASS SPECTROMETRIC ANALYSES**

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[52] **U.S. Cl.** **250/288**; 250/282; 250/292

[58] **Field of Search** 250/282, 292, 250/288, 287

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[57] **ABSTRACT**

The invention relates to methods and devices for the temporary storage of ions which are to be subjected to mass spectrometric analysis. Such temporary storage of ions in an RF multipole rod system for their analysis in an RF quadrupole ion trap is known from U.S. Pat. No. 5,179,278.

The invention uses this known temporary storage for such ions which are produced in an ion source from substance peaks from chromatographic or electrophoretich separation devices, or from other devices which feed substances in form of short-lasting peaks. The temporary store thereby accepts sufficient ions of a substance peak for several successive mass spectrometric analyses, so that a mass spectrometric characterization of the substances, which may also require varying measurement methods, is made possible to the desired degree.

Particularly ions from electrophoretically or chromatographically separated substance peaks should be able to be temporarily stored long enough until the mass spectrometric analyses have been concluded to the desired extent. Several temporary stores can collect the ions from several rapidly successive substance peaks. However, short-lasting substance peaks from laser desorptive or pyrolitic processes can also be thoroughly analyzed by means of temporary storage.

20 Claims, 4 Drawing Sheets